

Figure 1

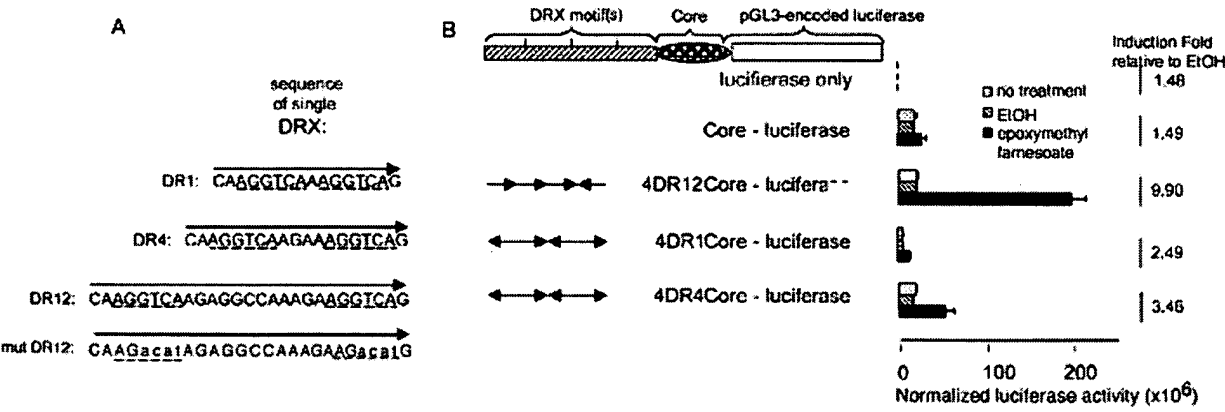


Figure 2

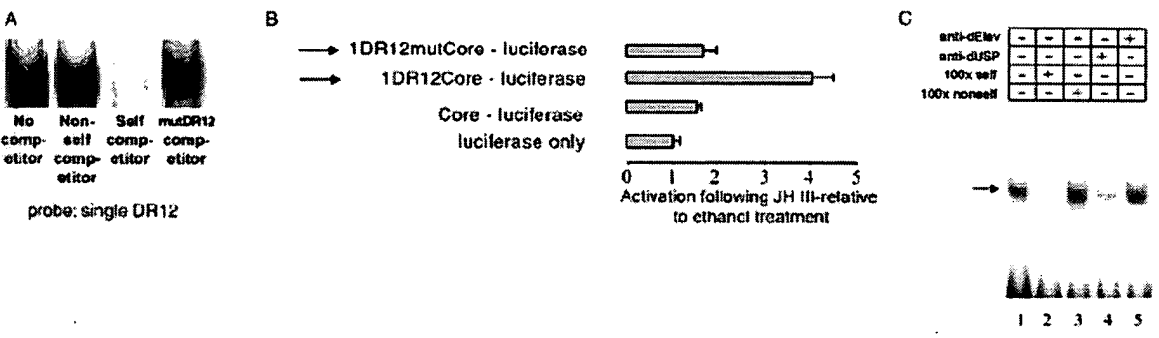
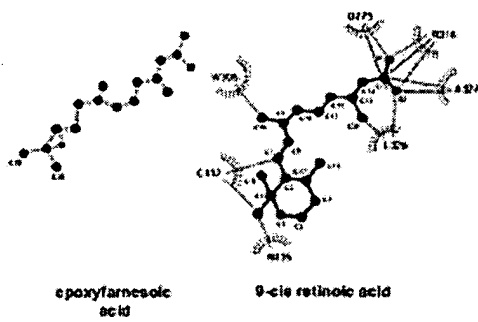
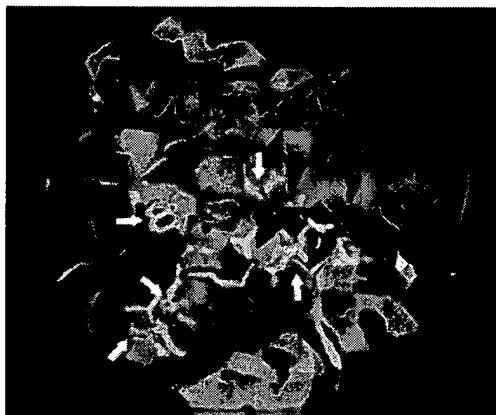
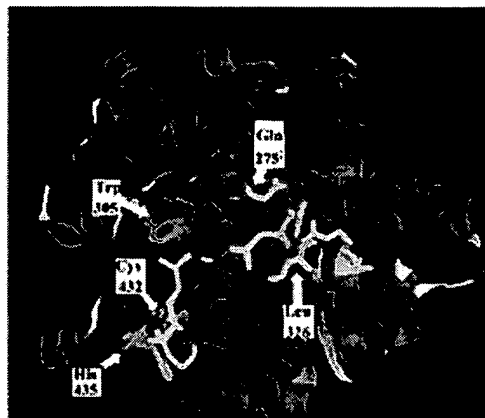


Figure 3

Panel A



Panel B - human RXRα



Panel D - Overlay

Panel C - *Drosophila* USP

Figure 4

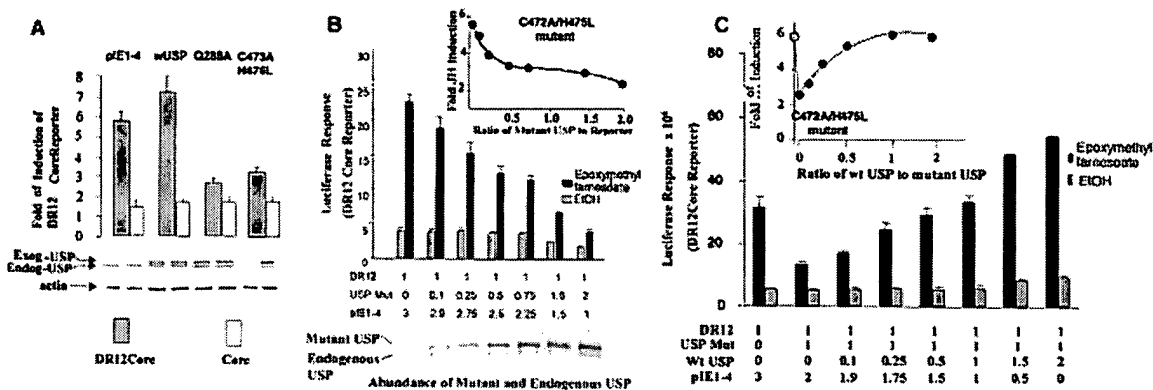


Figure 5

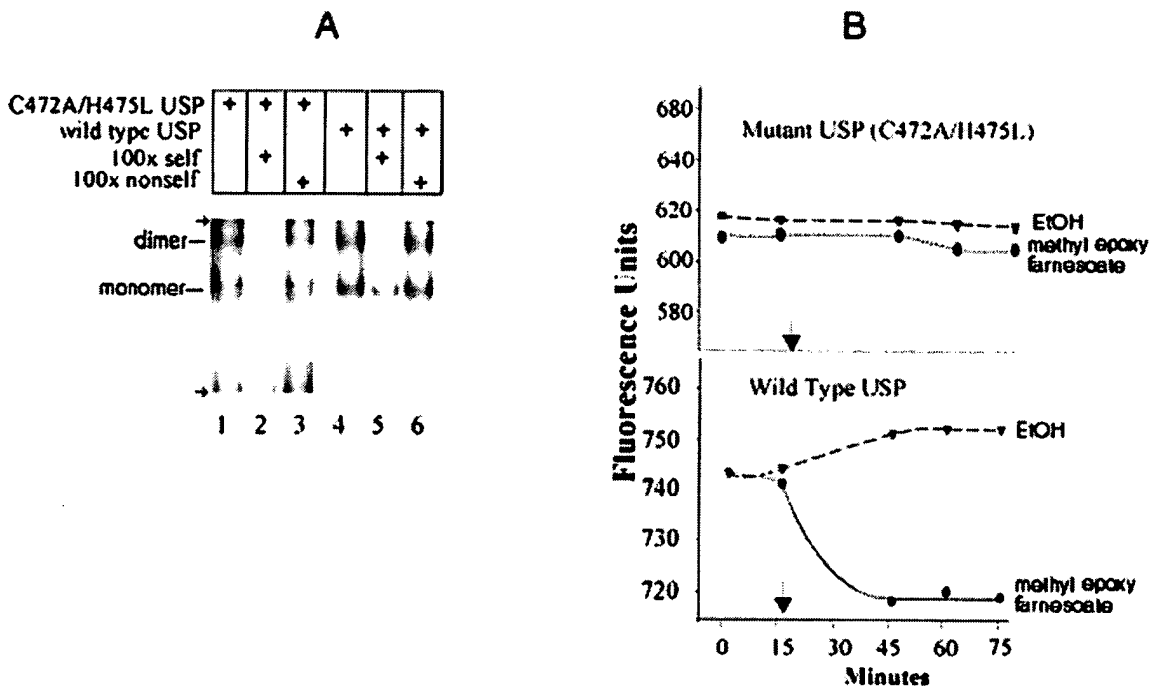


Figure 6

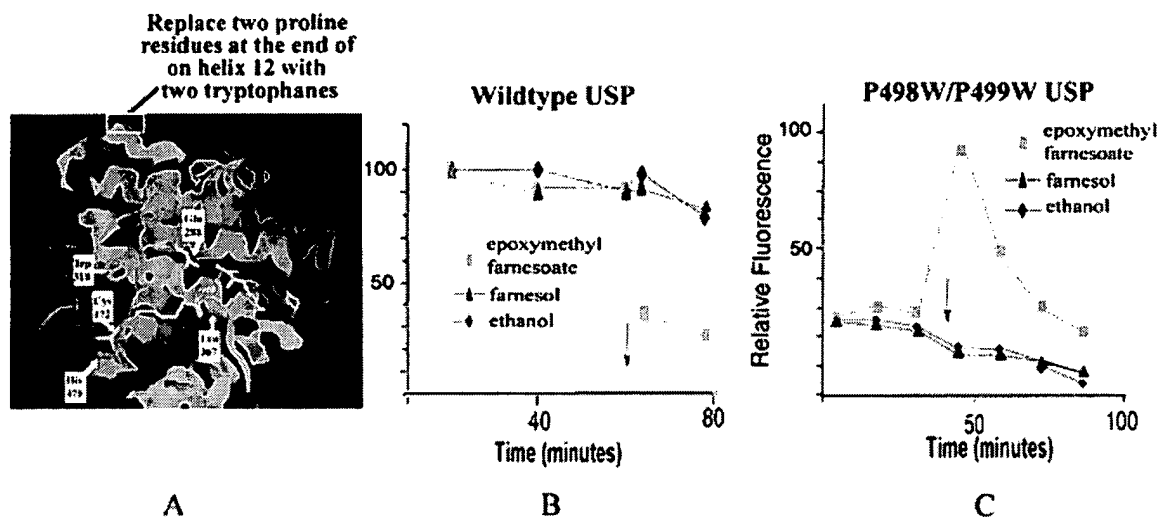


Figure 7

SEQ ID NO: 1: Wild type *Drosophila* USP cDNA

```
1  aaaaatgtcg acgcgaaaaa aggtatttat tcattagtca
gaaagtcttg cattctttgt
61  ttgttggtta aaagcgcaat tgtttggagg cgagcgaata
aagtgcgctg ctccatcggc
121 tcaagattat gtaaatgcag caacgacccc accaacaacg
aaactgcaac ctgctccact
181 tggcccaacg gaccaatagc ggacggacgg acacggtggc
gttggaagaa tgaaacccca
241 acagagaggc gaaagcgagc caagacacac cacatacaca
cgaagagaac gagcaagaag
301 aaaccggtag gcggaggagg cgctgcccc agttcctcca
atatacccag caccacatca
361 caagcccagg atggacaact gcgaccagga cgccagcttt
cggctgagcc acatcaagga
421 ggagggtcaag ccggacatct cgcagctgaa cgacagcaac
aacagcagct tttcgcccaa
481 ggccgagagt cccgtgccct tcatgcaggc catgtccatg
gtccacgtgc tgcccggctc
541 caactccgcc agtccaaca acaacagcgc tggagatgcc
caaatggcgc aggcgcccaa
601 ttcgggtgga ggctctgccg ccgctgcagt ccagcagcag
tatccgccta accatccgct
661 gagcggcagc aagcacctct gctctatttg cggggatcgg
gccagtggca agcactacgg
721 cgtgtacagc tgtgagggct gcaagggctt ctttaaacgc
acagtgcgca aggatctcac
781 atacgcttgc agggagaacc gcaactgcat catagacaag
cggcagagga accgctgcca
```

841 gtactgccgc taccagaagt gcctaacctg cggcatgaag
cgcgaagcgg tccaggagga

901 gcgtcaacgc ggcgcccgc atgcggcggg taggctcagc
gccagcggag gcggcagtag

961 cgggccaggt tcggtaggcg gatccagctc tcaaggcggg
ggaggaggag gcggcgtttc

1021 tggcggaatg ggcagcggca acggttctga tgacttcatg
accaatagcg tgtccaggga

1081 tttctcgatc gagcgcatca tagaggccga gcagcgagcg
gagacccaat gcggcgatcg

1141 tgcactgacg ttcttgccg ttggcccta ttccacagtc
cagccggact acaaggggtgc

1201 cgtgtcggcc ctgtgccaa tggtcaaaa acagctcttc
cagatggctg aatacgcgcg

1261 catgatgccg cactttgcc aggtgccgct ggacgaccag
gtgattctgc tgaaagccgc

1321 ttggatcgag ctgctcattg cgaacgtggc ctggtgcagc
atcgtttcgc tggatgacgg

1381 cggtgccggc ggcgggggcg gtggactagg ccacgatggc
tcctttgagc gacgatcacc

1441 gggccttcag cccagcagc tgttcctcaa ccagagcttc
tcgtaccatc gcaacagtgc

1501 gatcaaagcc ggtgtgtcag ccattcttga ccgcatattg
tcggagctga gtgtaaagat

1561 gaagcggctg aatctcgacc gacgcgagct gtcttgcttg
aaggccatca tactgtacaa

1621 cccggacata cgcgggatca agagccgggc ggagatcgag
atgtgccgcg agaaggtgta

1681 cgcttgccctg gacgagcact gccgcctgga acatccgggc
gacgatggac gctttgcgca

1741 actgctgctg cgtctgcccg ctttgcgatc gatcagcctg
aagtgccagg atcacctgtt

1801 cctcttccgc attaccagcg accggccgct ggaggagctc
tttctcgagc agctggaggc

1861 gccgccgcca cccggcctgg cgatgaaact ggagtagggc
cccgactcta aagtctcccc

1921 cgttctccat ccgaaaaatg tttcattgtg attgcgtttg
tttgcatctc tcctctctat

1981 cccttatacc ctacaaaagc ccctaatat tacgcaaat
gtgtatgtaa ttgtttattt

2041 tttttttatt acctaattt attattatta ttgatataga
aaatgttttc ctttaagatga

2101 agattagcct cctcgacgtt tatgtcccag taaacgaaaa
acaaacaaaa tccaaaactt

2161 gaaaagaaca caaacacga acgagaaaat gcacacaagc
aaagtaaaag taaaagttaa

2221 actaaagcta aacgagtaaa gatattaaaa taacggttaa
aattaatgca tagttatgat

2281 ctacagacgt atgtaaacat acaaattcag cataaatata
tatgtcagca ggcgcatatc

2341 tgcggtgctg gccccgttct aaatcaattg taattacttt
ttaacataaaa tttacccaaa

2401 acgttatcaa ttagatgcga gatacaaaaa tcaccgacga
aaaccaacaa aatatatcta

2461 tgtataaaaa atataaactg cataacaa

Figure 8

SEQ ID NO: 2 Wild Type Drosophila USP Amino Acid Sequence

MDNCDQDASF RLSHIKEEVK PDISQLNDSN NSSFSPKAES PVPFMQAMSM 50
VHVLPGSNSA SSNNNSAGDA QMAQAPNSAG GSAAAVQQQ YPPNHPLSGS 100
KHLCSICGDR ASGKHYGVYS CEGCKGFFKR TVRKDLTYAC RENRNCIIDK 150
RQRNRCQYCR YQKCLTCGMK REAVQEERQR GARNAAGRLS ASGGGSSGPG 200
SVGGSSSQGG GGGGGVSGGM GSGNGSDDFM TNSVSRDFSI ERIIEAEQRA 250
ETQCGDRALT FLRVGPYSTV QPDYKGAVSA LCQVVNKQLF QMVEYARMMP 300
HFAQVPLDDQ VILLKAAWIE LLIANVAWCS IVSLDDGGAG GGGGGLGHDG 350
SFERRSPGLQ PQQLFLNQSF SYHRNSAIKA GVSAIFDRIL SELSVKMKRL 400
NLDRRELSCL KAIILYNPDI RGIKSRAEIE MCREKVYACL DEHCRLEHPG 450
DDGRFAQLLL RLPALRSISL KCQDHLFLFR ITSDRPLEEL FLEQLEAPPP 500
PGLAMKLE 508

Figure 9: Sequences of several core promoters and Misc. Sequences

AJHSP1 (SEQ ID NO: 3)

GACCAATTAA TAGGTGACCT GCGATAAAAA TTACCTATAA ATATGTGATG TTGCTGGATT G

BJHSP1 (SEQ ID NO: 4)

CGAGAGGTTA TCGCCCAATA CAACAACAAT GATAATGACG TGCAAGCAGA TAATAGTGAA
AAAATAACAG ATACTAGAGT ATAAAAAGGG GATGCTGGGA GTGGACAGGC ACAGTCGTGG
TGTGGCAGCA AACA

BJHSP2 (SEQ ID NO: 5)

TCAGTATAAA AAGGGGTGCA TTCTCGGTAA GAGTACAGTT GAACTCACAT CGAGTTAACT
CCACGATGA

ARYL (SEQ ID NO: 6)

TAAGGGTAGT ATAAAAAGGC GATCAATCAT TGACAAACAG TTTGCAGCAG GCTGTGGGAA CGA

EcRE (SEQ ID NO: 7)

GAGGTCAATGACCTC

DR Forward: (SEQ ID NO: 8)

5'-AGGTCAN_xAGGTCA-3'

DR reverse: (SEQ ID NO: 9)

5'-TGACCTN_xTGACCT-3'

SEQ ID NO: 10

AGGTCANAGGTCA

SEQ ID NO: 11

AGGTCANAGGTCAAGGTCANAGGTCA

SEQ ID NO: 12

AGGTCANAGGTCATGACCTNTGACCT

SEQ ID NO: 13

5'-CAAGGTCAAAGGTCAG-3'

SEQ ID NO: 14

5'-CAAGGTCAAGAAAGGTCAG-3'

SEQ ID NO: 15

5'-CAAGGTCAAGAAGGCCAAAGAGGTCAG-3'

SEQ ID NO: 16

CAAGGTCANNNNNNNNNNNNAGGTCAG

SEQ ID NO: 17

GGTACCGAGCTCTTACGCGTGCTAGCCCGGGCTCGA

SEQ ID NO: 18

CGGTATTTACACCGCAcATGGTGCACTCTCAGTACAATC

SEQ ID NO: 19

GTGCCAAGTGGTCAACAAAgcGCTCTTCCAGATGGTCGAATAC

SEQ ID NO: 20

GCGATCGATCAGCCTGAAGgcCCAGGATCtCCTGTTCTCTTCCGCATTAC

SEQ ID NO: 21

CTTTCTCGAGCAGCTGGAGGCGtgGtgGCCACCCGGCCTGGCGATGAAACT

JHE Core SEQ ID NO: 22

CGTGTCGGTGCCGCTGCTGGGGTCGCGCGCCACATATATGCGTGCGAGGAGCGCGCGCCGGCAGTGCGGCG
TGCGACCCCGACCAGACA